

AMENDMENTS TO THE CLAIMS

Please cancel claim 31.

32. (amended) Apparatus for use by an operator on a surface comprising:

a vehicle adapted to move across the surface;  
a head assembly on the vehicle for treating the surface;  
a support connected to the head assembly;  
an actuator on the vehicle comprising a screw in threaded engagement with the support, and a motor for rotating the screw to raise and lower the support and the head assembly connected thereto;

a spring co-axial with the screw interposed between the support and the head assembly;

a control responsive to user input for controlling the actuator to lower the support until the head assembly is in contact with the surface and the spring is compressed a preset amount corresponding to the user input; and

a switch on the vehicle for sensing when the head assembly is in contact with the surface, and wherein the control is responsive to the switch for controlling the actuator to lower the support and compress the spring the preset amount.

33. (amended) Apparatus for use by an operator on a surface comprising:

a vehicle adapted to move across the surface;  
a head assembly on the vehicle for treating the surface;  
a support connected to the head assembly;  
an actuator on the vehicle comprising a screw in threaded engagement with the support, and a motor for rotating the screw to raise and lower the support and the head assembly connected thereto;

a spring co-axial with the screw interposed between the support and the head assembly;

a control responsive to user input for controlling the actuator to lower the support until the head assembly is in contact with the surface and the spring is compressed a preset amount corresponding to the user input; and

a linear potentiometer between the head assembly and the support for sensing a length of the spring, and wherein the control is responsive to the linear potentiometer for controlling the actuator to lower the support and compress the spring the preset amount.

Please cancel claim 34.

35. (amended) Apparatus for use by an operator on a surface comprising:

a vehicle adapted to move across the surface;

a head assembly on the vehicle for treating the surface;

a support connected to the head assembly;

an actuator on the vehicle comprising a screw in threaded engagement with the support, and a motor for rotating the screw to raise and lower the support and the head assembly connected thereto;

a spring co-axial with the screw interposed between the support and the head assembly; and

a control responsive to user input for controlling the actuator to lower the support until the head assembly is in contact with the surface and the spring is compressed a preset amount corresponding to the user input;

wherein the support comprises a nut and wherein the actuator comprises a screw in threaded engagement with the nut and a motor for rotating the screw to raise and lower the nut, said apparatus further comprising a connector assembly connecting the head assembly and the support; and

wherein the connector assembly comprises an outer tube containing said spring and connected to the head assembly, said support further comprising an inner tube secured to the nut and

slidable inside the outer tube, and a pin connected to the inner tube slidable in a slot in the outer tube.

36. (amended) Apparatus for use by an operator on a surface comprising:

a vehicle adapted to move across the surface;

a head assembly on the vehicle for treating the surface;

a support connected to the head assembly;

an actuator on the vehicle comprising a screw in threaded engagement with the support, and a motor for rotating the screw to raise and lower the support and the head assembly connected thereto;

a spring co-axial with the screw interposed between the support and the head assembly;

a control responsive to user input for controlling the actuator to lower the support until the head assembly is in contact with the surface and the spring is compressed a preset amount corresponding to the user input; and

a linear sensor for detecting a length of the spring, the control being responsive to the linear sensor to operate the actuator to raise and lower the support.

37. (amended) Apparatus for use by an operator on a surface comprising:

a vehicle adapted to move across the surface;

a head assembly on the vehicle for treating the surface;

a support connected to the head assembly;

an actuator on the vehicle comprising a screw in threaded engagement with the support, and a motor for rotating the screw to raise and lower the support and the head assembly connected thereto;

a spring co-axial with the screw interposed between the support and the head assembly; and

a control responsive to user input for controlling the actuator to lower the support until the head assembly is in

contact with the surface and the spring is compressed a preset amount corresponding to the user input.

wherein the support comprises a nut and wherein the actuator comprises a screw in threaded engagement with the nut and a motor for rotating the screw to raise and lower the nut, said apparatus further comprising:

a detector for providing a count corresponding to the position of the support relative to the actuator;

a position control set by an operator to indicate a preset amount; and

a comparator for comparing the count to the preset amount, said control being responsive to the comparator to lower the support the preset amount below a position at which the head assembly is in contact with the surface.